



— BUREAU OF —
RECLAMATION

American River Group

1:30 PM – 3:30 PM

Conference Line: +1 (321) 209-6143; Access Code: 985 598 947#

Webinar: [Join Microsoft Teams Meeting](#)

Thursday, August 17, 2023

Agenda

1. Introductions
2. Announcements
3. Housekeeping
 - a. Meeting will be recorded for notetaking purposes
4. Fisheries Update
 - a. CDFW
 - b. CFS
 - c. PSMFC
5. Operations Forecast
 - a. SMUD
 - b. PCWA
6. Central Valley Operations
7. Discussion
 - a. Power Bypass Report
8. Next Meetings:
 - a. Thursday, September 21st, 1:30-3:30pm

Provisional Data Subject to Revision

JUVENILE SALMONID MONITORING

Presented by Emily Fisher, CDFW, 916-272-4113, emily.fisher@wildlife.ca.gov

- 195 juvenile Chinook Salmon and 36 steelhead trout observed thus far
- Each site is sampled once a month
- Seine and snorkel sites are variable based on river conditions

Provisional Data Subject to Revision

Table 1: Juvenile salmonids observed during Lower American River juvenile salmonid monitoring seine and snorkel surveys

Mon.	Cat.	Upper Reach - Nimbus Basin Main	Upper Reach- Nimbus Basin Side	Upper Reach- Upper Sunrise / Sailor Bar Main	Upper Reach- Upper Sunrise / Sailor Bar Side	Upper Reach- Lower Sunrise Main/ Sacramento Bar	Upper Reach - Lower Sunrise Side	Upper Reach- Rossmoor	Middle Reach- Riverbend Main	Middle Reach- Riverbend Side	Middle Reach- Gristmill	Lower Reach -Watt	Lower Reach- Paradise Beach/ Howe Avenue
April	CS	***	0	1	1	0	***	2	0	16	30	2	0
April	SH	***	4	0	0	0	***	1	0	2	1	0	0
May	CS	***	***	***	***	3	***	10	***	***	1	16	0
May	SH	***	***	***	***	0	***	0	***	***	3	0	0
June	CS	***	0	0	0	85	2*	3	***	0	0	21	0
June	SH	***	0	0	0	2	9*	0	***	0	0	8	0
July	CS	***	0	0	1	1	0	0	0	0	0	0	0
July	SH	***	0	0	1	2	0	0	0	0	0	1	0
Aug	CS	N/A	N/A	N/A	N/A	0	N/A	N/A	0	0	N/A	0	N/A
Aug	SH	N/A	N/A	N/A	N/A	2	N/A	N/A	0	0	N/A	0	N/A

*Samples were collected from isolated pools located near the side channel. Salmon were relocated back to the LAR.

*** Unable to sample due to high flows

Table 2: Summary of total salmonids observed during juvenile monitoring in the Lower American River

Category	Upper Reach	Middle Reach	Lower Reach	Total
Chinook Salmon	109	47	39	195
Steelhead trout	21	6	9	36

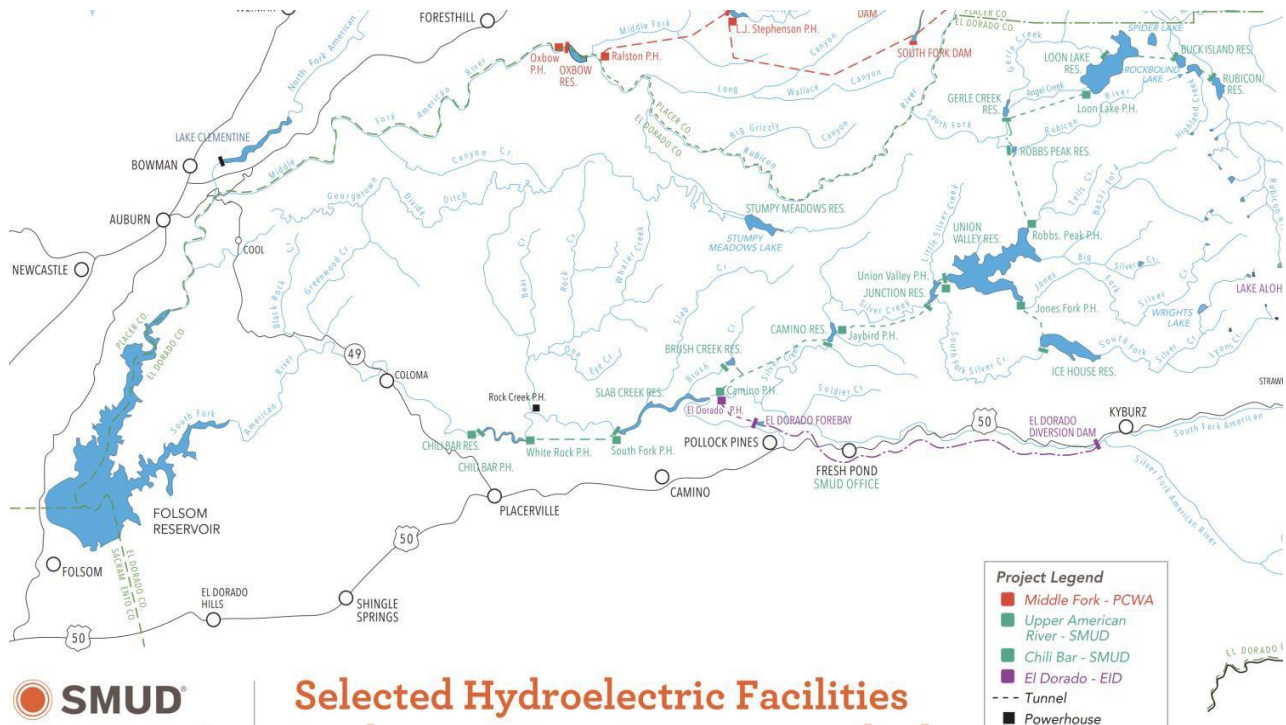


Figure 1 Map – SMUD Hydroelectric Facilities – Upper American River Project

Figure 1 is a map of the SMUD Upper American River Project hydroelectric facilities. It notes down, major roadways, and SMUD projects on the Upper American River, and Chili Bar, including tunnels, and powerhouses. The Placer County Water Agency Middle Fork Project and El Dorado Irrigation District El Dorado Project are also pictured.

SMUD Upper American River Project Update 7/17/23

Fresh Pond Precipitation

August precipitation through 8/16/2023 is 0.00 inches, which is 0.0% of the August average of 0.20 inches. Precipitation for the water year to date is 79.97 inches which is 142.3% of average to date (56.20 inches) and 139.5% of the entire water year average of 57.32 inches.

Runoff and Snowpack Water Content

Runoff into the storage reservoir basins is 190.5% of median to date through 8/16/2023. The snowpack is 0.0% of average at selected snow sensors: Robbs PH, Robbs Saddle, Van Vleck, Alpha, and Schneider.

Table 3. Fresh Pond Precipitation

Month	Current WY	Hist. Avg	% of Avg.
Oct	0.00	3.30	0%
Nov	6.33	6.87	92%
Dec	15.08	9.14	165%
Jan	27.51	9.55	288%
Feb	6.32	9.50	67%
Mar	21.32	9.06	235%
Apr	0.65	4.84	13%
May	2.13	2.97	72%
Jun	0.63	0.79	80%
Jul	0.00	0.08	0%
Aug	0.00	0.20	0%
Sep	0.00	1.02	0%
Total	79.97	57.32	140%

*Month to date total, full month historical average

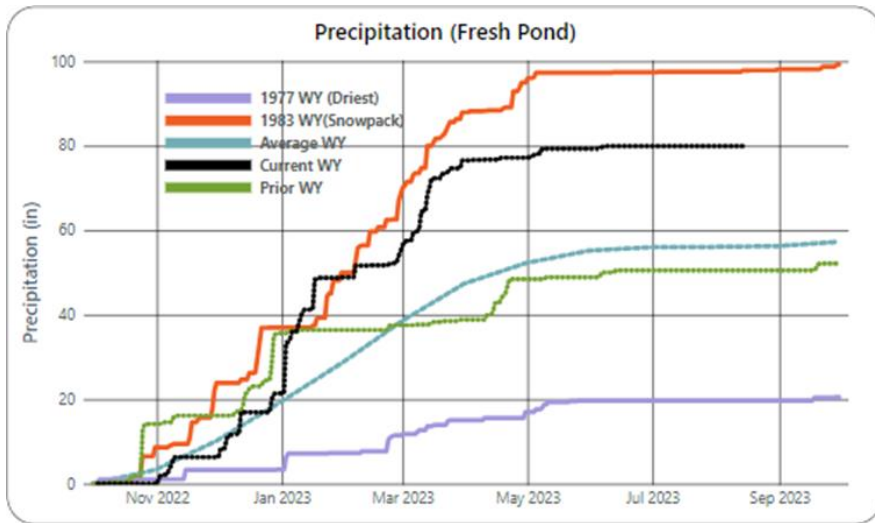


Figure 2. WY 2023 Precipitation (Fresh Pond)

Figure 2 is a line graph of fresh pond precipitation in inches for October 2022-2023. It includes precipitation data from the driest water year (1977), 1983's water year snowpack, average, current, and prior water year. August precipitation through 8/16/2023 is 0.00 inches, which is 0.0% of the August average of 0.20 inches. Precipitation for the water year to date is 79.97 inches which is 142.3% of average to date (56.20 inches) and 139.5% of the entire water year average of 57.32 inches.

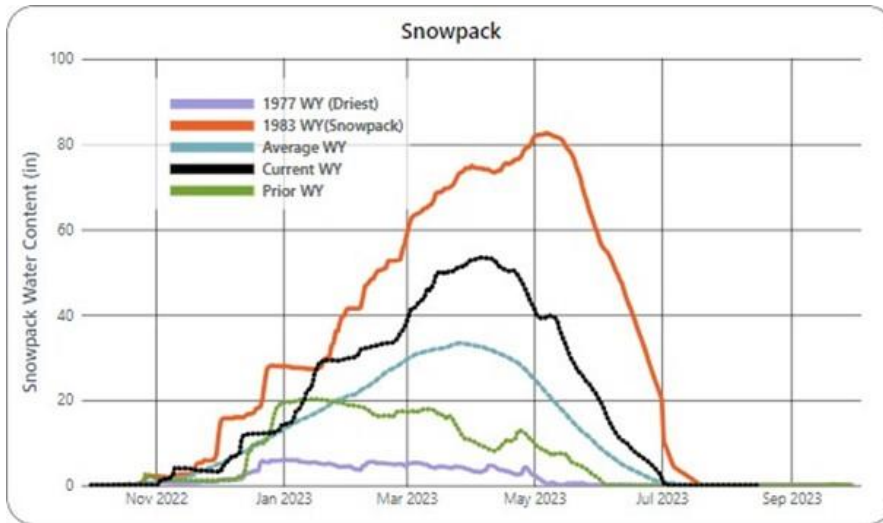


Figure 3. WY 2023 snowpack

Figure 3 is a line graph of snowpack water content in inches for October 2022-2023. It includes data from the driest water year (1977), 1983's water year snowpack, average, current, and prior water year. Runoff into the storage reservoir basins is 190.5% of median to date through 8/16/2023. The snowpack is 0.0% of average at selected snow sensors: Robbs PH, Robbs Saddle, Van Vleck, Alpha, and Schneider.

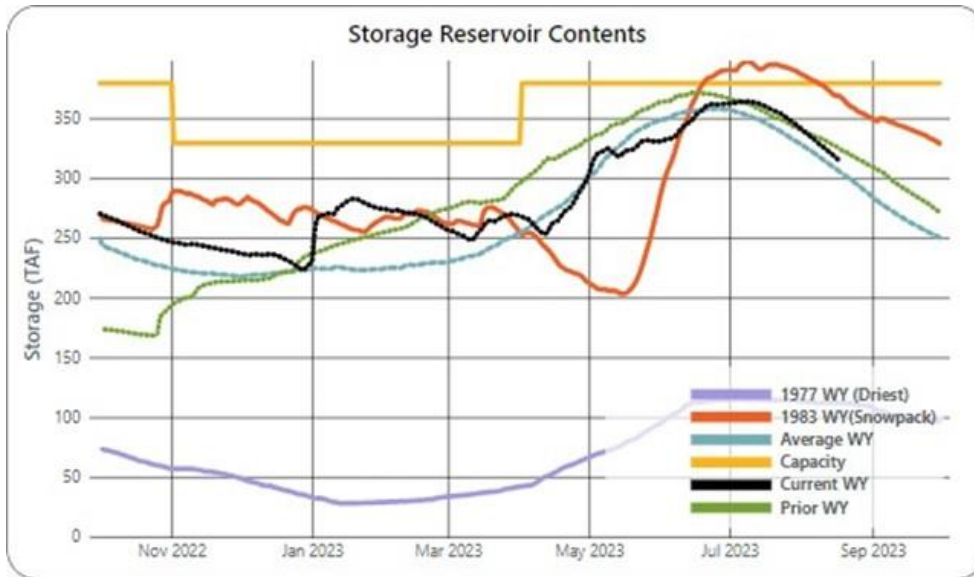


Figure 4. WY 2023 Cumulative Runoff into Storage Reservoirs

Figure 4 is a line graph of SMUD storage reservoir contents for October 2023-2024. It includes data from the driest water year (1977), 1983’s water year snowpack, average, current, and prior water year. Total capacity of the reservoir network is also shown.

Table 4. SMUD Storage Reservoirs

Reservoir Storage	Hist. Avg Acre-ft	Hist. Avg % Full	Current Acre-Ft	Current % Full	Prior Year Acre-ft	Prior Year % Full	Capacity Acre-ft	Winter Acre-ft
Loon Lake Reservoir	53,549	77%	56,977	82.2%	59,712	86%	69,310	69,310
Ice House Reservoir	34,855	80%	37,613	86.5%	37,000	85%	43,500	34,855
Union Valley Reservoir	213,019	80%	220,151	82.6%	229,151	86%	266,370	255,046
Total Reservoir Storage	301,423	79%	314,741	83.0%	325,863	86%	379,180	329,211

Table 5. FERC End of Month Storage Requirements – Wet WY

Dates	Loon	Ice House	Union Valley	Total Storage
31- Jul	55,962	37,632	227,654	321,248
31 - Aug	47,468	33,357	193,005	273,830
30 - Sep	44,033	31,025	166,383	241,441

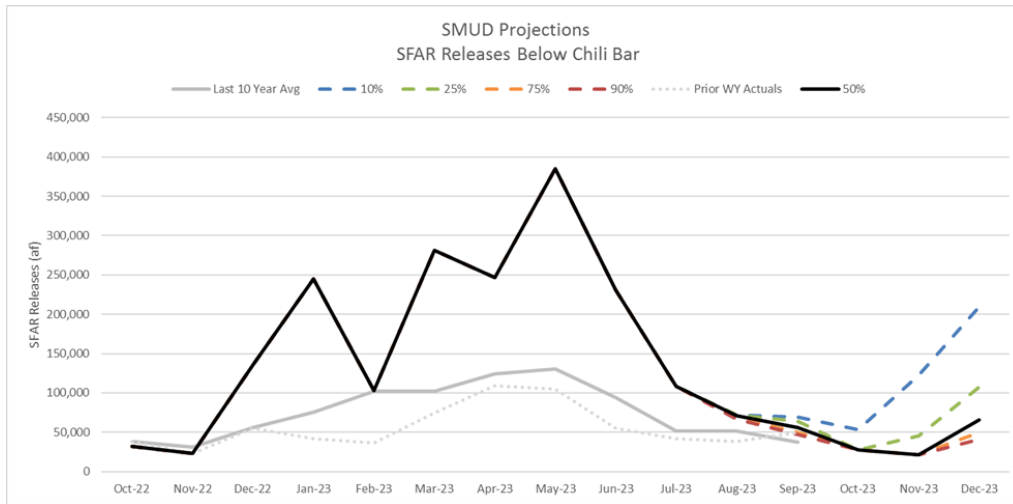
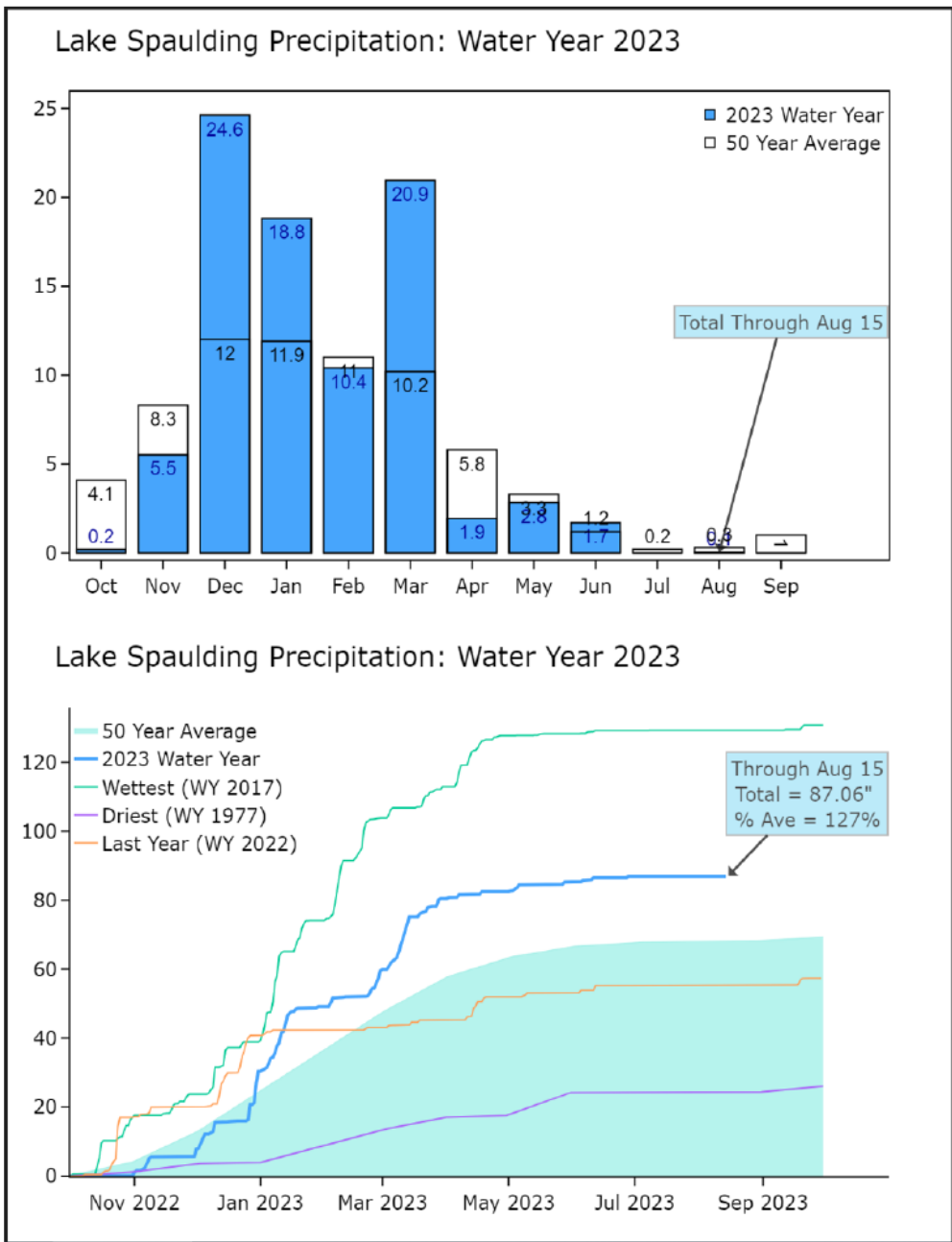


Figure 5. Chili Bar releases into the South Fork American River based on forecast from 8/14/2023.

Figure 5 is a line graph of observed and projected releases below Chili Bar from October 2022 to December 2023. The graph includes a last 10-year average, actual prior water year data, and projections of 90%, 75%, 50%, 25%, and 10% likelihood.

Table 8. Releases below Chili Bar Dam

Observed/Forecast	Month	Daily Mean Release Rate (cfs)	Monthly Total Release (ac-ft)
Observed	Oct-22	520	31,977
Observed	Nov-22	386	22,966
Observed	Dec-22	2,207	135,729
Observed	Jan-23	3,980	244,747
Observed	Feb-23	1,862	103,424
Observed	Mar-23	4,573	281,182
Observed	Apr-23	4,142	246,460
Observed	May-23	6,264	385,181
Observed	Jun-23	3,874	230,517
Observed	Jul-23	1,755	107,923
Forecast	Aug-23	1,162	71,429
Forecast	Sep-23	942	56,026



Lake Spaulding Precipitation: Water Year 2023 – Total through Aug 15 are 87.06 inches with a 50-Year average of 68.66 inches.

Figure 6 is a bar graph and a line graph of precipitation at Lake Spaulding from October 2022 to September 2023. The line graph includes a 50-year average, data from the wettest water year (2017), the driest water year (1977), water year 2022 and 2023. The bar graph includes a 50-year average and data from water year 2023 organized by month.

PCWA MFP Operations Overview for American River Operations Group

(Real Time Data as of August 16, 2023)

- French Meadows Storage = 105,000 AF of 136,405 AF = 77% Capacity
 - MFAR above FM Inflow (R24) = 7-day AVG ~10 cfs
- Hell Hole Storage = 163,000 AF of 207,590 AF = 79% Capacity
 - Five Lakes Inflow (R23) = 7-day AVG ~17 cfs
 - Rubicon Inflow (R22) = 7-day AVG ~12 cfs
- Combined Storage (FM+HH) = 270,000 AF/342,590 AF = 79% Capacity; 135% of AVG
- MFAR @ R11: 7-day daily average ~1,100 cfs
- The MFP is still offline awaiting PG&E restoration of the 230kV transmission line – the current Transmission Induced Generator Outage (TIGO) card in the CAISO system expires 12/30.

Reservoir Releases in Cubic Feet/Second

Reservoir	Dam	WY 2022	WY 2023	15 Yr Median
Trinity	Lewiston	451	432	456
Sacramento	Keswick	4,608	10,236	10,107
Feather	Oroville (SWP)	3,000	5,500	5,500
American	Nimbus	3,260	4,025	3,211
Stanislaus	Goodwin	254	1,500	277
San Joaquin	Friant	249	352	353

Storage in Major Reservoirs in Thousands of Acre-Feet

Reservoir	Capacity	15 Yr Avg	WY 2022	WY 2023	% of 15 Yr Avg
Trinity	2,448	1,435	638	1,379	96
Shasta	4,552	2,746	1,635	3,697	135
Folsom	977	556	512	793	143
New Melones	2,420	1,342	673	1,976	147
Fed. San Luis	966	294	169	814	277
Total North CVP	11,363	6,374	3,627	8,659	136
Millerton	521	323	256	414	128
Oroville (SWP)	3,538	1,957	1,371	3,036	155

Accumulated Inflow for Water Year to Date in Thousands of Acre-Feet

Reservoir	Current WY 2023	WY 1977	WY 1983	15 Yr Avg	% of 15 Yr Avg
Trinity	1,518	672	1,979	1,044	145
Shasta	5,321	3,255	8,654	4,496	118
Folsom	4,507	1,031	5,888	2,519	179
New Melones	2,243		2,096	1,016	221
Millerton	4,003	692	2,851	1,566	256

Accumulated Precipitation for Water Year to Date in Inches

Reservoir	Current WY 2023	WY 1977	WY 1983	Average (N Years)	% of Average	Last 24 Hours
Trinity at Fish Hatchery	37.00	23.49	40.07	30.06	123	0.01
Sacramento at Shasta Dam	72.75	37.47	86.50	58.73	124	0.01
American at Blue Canyon	77.92	3.22	113.32	64.13	121	0.00

Reservoir	Current WY 2023	WY 1977	WY 1983	Average (N Years)	% of Average	Last 24 Hours
Stanislaus at New Melones	46.93		36.75	26.77	175	0.00
San Joaquin at Huntington Lk	65.94	11.90	67.10	40.13	164	0.00

August 2023 | Folsom Lake Daily Operations | Run Date: 08/16/2023

Day	Elev	Storage (1000 Acre- Feet) in Lake	Storage (1000 Acre- Feet) Change	Compu- ted* Inflow C.F.S.	Release - C.F.S. River Power	Release - C.F.S. River Spill	Release - C.F.S. River Outlet	Pump- ing Plant	Evap. - C.F.S.	Evap. - Inches	Precip Inches
1	454.06	847.6	-3.8	2,687	4,211	0	0	283	101	0.29	0.00
2	453.70	843.8	-3.8	2,452	3,992	0	0	259	100	0.29	0.00
3	453.27	839.4	-4.5	2,228	4,135	0	0	252	107	0.31	0.00
4	452.93	835.8	-3.5	2,629	4,072	0	0	253	93	0.27	0.00
5	452.53	831.6	-4.2	2,505	4,224	0	0	263	114	0.33	0.00
6	452.08	827.0	-4.7	2,106	4,056	0	0	271	137	0.40	0.00
7	451.72	823.2	-3.7	2,469	3,956	0	0	270	120	0.35	0.00
8	451.32	819.1	-4.1	2,461	4,166	0	0	266	113	0.33	0.00
9	451.03	816.1	-3.0	2,638	3,777	0	0	265	106	0.31	0.00
10	450.63	812.0	-4.1	2,670	4,359	0	0	274	109	0.32	0.00
11	450.20	807.6	-4.4	2,307	4,166	0	0	265	102	0.30	0.00
12	449.84	803.9	-3.7	2,444	3,925	0	0	273	105	0.31	0.00
13	449.44	799.8	-4.1	2,349	4,018	0	0	277	112	0.33	0.00
14	449.11	796.5	-3.4	2,446	3,753	0	0	276	115	0.34	0.00
15	448.75	792.8	-3.7	2,705	4,149	0	0	275	125	0.37	0.00
16		0.0	0.0								
Totals			-58.7	37,096	60,959	0	0	4,022	1,659	4.85	0.00
Acre- Feet			58,700	73,580	120,912	0	0	7,978	3,291		

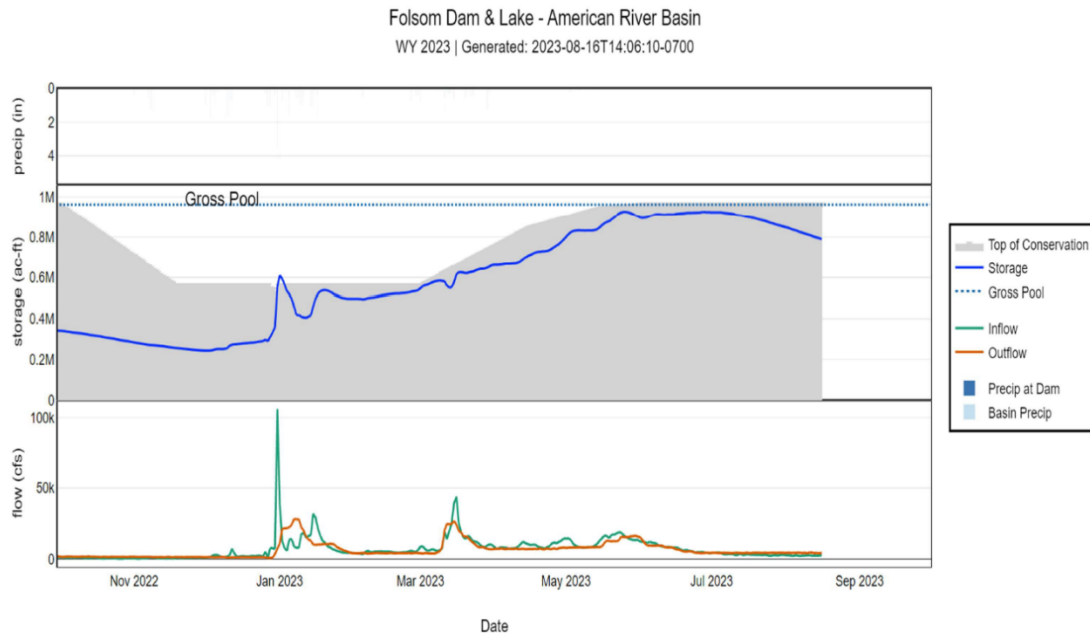
* Computed inflow is the sum of change in storage, releases, pumping, and evaporation

Summary: Release (acre-feet)

Power	120,912
Spill	0
Outlet	0
Pumping Plant	7,978
Total Releases	128,890

Summary: Precipitation (Month/Inches)

This month	0.00
October 1, 2022 to date	30.81



Folsom Dam & Lake – American River Basin
2023-08-16T14:06:10-0700

Isobath 07/1-07/31 (Mean Daily Temperature, Release, Storage, Unit Shutter Position/Load Percentage)

Date	MDT, Water, NFA	MDT, Water, ARP	MDT, Water, AFD ¹	MDT, Water, AFO	MDT, Water, AWP	MDT, Water, AWB	MDT, Air, CSU	Release (CFS) Nimbus	Storage (TAF) Folsom	USP/LP Unit 1	USP/LP Unit 2	USP/LP Unit 3
Month												
Jun	57.8	55.5	53.9	56.1	56.8	57.8	67.9	919				
07/01	62.6	59.0	55.0	58.0	59.3	60.8	88.9	4006	928	A 54.3	A 13.0	A 33
07/02	63.1	59.6	55.1	58.0	59.4	60.9	89.1	4006	928	A 13.8	A 54.2	A 32
07/03	63.1	60.0	55.2	58.0	59.4	60.8	78.9	4005	928	A 55.0	A 14.1	A 31
07/04	62.7	60.3	55.3	58.4	59.5	60.7	70.9	4005	928	A 53.3	A 33.0	A 14
07/05	62.6	61.4	55.3	58.3	59.4	60.6	68.3	4004	925	A 13.4	A 32.8	A 54
07/06	62.0	61.5	55.4	58.3	59.3	60.5	66.9	4002	924	A 56.6	A 29.9	A 14
07/07	62.3	61.2	55.4	58.4	59.4	60.6	66.9	3998	922	A 30.3	A 13.7	A 56
07/08	61.7	61.1	55.6	58.4	59.4	60.6	67.0	4000	921	A 13.1	A 57.3	A 30
07/09	61.3	61.2	55.7	58.5	59.3	60.3	63.6	3977	919	A 56.7	A 29.8	A 14
07/10	60.9	61.3	55.9	58.5	59.6	60.7	70.4	3977	919	A 30.2	A 31.8	A 38
07/11	61.1	61.6	55.9	58.5	59.7	61.0	78.7	3973	913	A 14.1	A 55.9	A 30
07/12	61.1	61.9	55.9	58.5	59.7	61.1	76.3	3974	912	A 56.1	A 31.4	A 12
07/13	60.9	61.9	56.0	58.9	60.0	61.3	77.5	3976	909	A 29.8	A 17.3	A 53
07/14	61.3	62.0	56.1	59.2	60.3	61.7	81.0	3980	906	A 13.7	A 56.8	A 30
07/15	61.8	62.2	56.2	59.1	60.5	62.0	85.7	3959	904	A 54.1	A 32.3	A 14
07/16	62.3	62.8	56.3	59.1	60.5	62.0	87.8	4081	902	A 14.2	A 38.7	A 47
07/17	62.7	63.3	56.5	58.9	60.5	62.0	85.0	4088	899	A 56.3	A 33.1	A 11
07/18	62.3	63.7	56.5	59.4	60.6	61.9	78.1	4134	896	A 57.3	A 29.5	A 13
07/19	62.1	63.1	56.5	59.5	60.7	61.9	74.7	4098	893	A 29.3	A 14.4	A 56
07/20	61.9	63.3	56.6	59.4	60.5	61.8	79.0	4005	890	A 13.8	A 56.2	A 30
07/21	61.9	63.6	56.7	59.5	60.8	62.1	84.8	4005	887	A 56.8	A 29.6	A 14
07/22	61.7	64.8	56.9	59.4	60.9	62.3	86.8	4001	884	A 53.4	A 13.5	A 33
07/23	61.3	63.7	56.9	59.5	60.7	62.0	83.3	4006	880	A 14.4	A 57.0	A 29
07/24	60.8	65.2	57.1	59.7	60.7	61.8	74.8	4006	876	A 58.2	A 29.8	A 12
07/25	60.2	65.4	57.1	59.8	61.0	62.3	78.8	4003	872	A 54.2	A 32.0	A 14
07/26	60.4	64.2	57.1	59.8	61.0	62.3	78.3	3968	868	A 26.5	A 14.1	A 59
07/27	60.3	63.0	57.3	60.0	61.1	62.3	72.9	3945	865	A 14.0	A 54.2	A 32
07/28	60.1	64.3	57.4	60.1	61.2	62.3	74.4	4016	861	A 54.9	A 31.4	A 14
07/29	59.8	61.5	57.4	60.2	61.1	62.2	75.4	4094	858	A 30.7	A 13.9	A 55
07/30	59.5	61.5	57.5	60.0	61.1	62.2	76.6	4037	855	A 13.2	A 55.5	A 31
07/31	59.5	61.3	57.6	60.3	61.3	62.4	77.5	4019	851	A 56.4	A 29.0	A 15
Jul	61.5	62.3	56.3	59.1	60.3	61.5	77.4	897				
							Total	AF	246639			

Legend:

? = 1-9 hours of data missing

! = 10 or more hours of data missing

= Station out of service

Monthly Averages

A = All Shutters Lowered

T = Top Shutter Raised

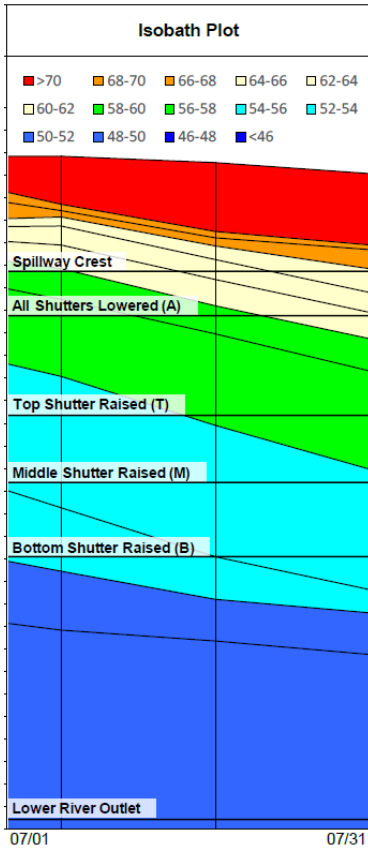
M = Middle Shutter Raised

B = Bottom Shutter Raised

O = Unit Outage

Notes:

¹ AFD is a weighted average based on hourly flow values, including generation, bypass and spill



Isobath Plot 07/1-07/31. Showing Spillway Crest, All Shutters Lowered (A), Top Shutter Raised (T), Middle Shutter Raised (M), Bottom Shutter Raised (B), and Lower River Outlet

Isobath 08/1-08/15 (Mean Daily Temperature, Release, Storage, Unit Shutter Position/Load Percentage)

MDT = Mean Daily Temperature (°F)

USP/LP = Unit Shutter Position/Load Percentage

Date	MDT, Water, NFA	MDT, Water, ARP	MDT, Water, AFD ¹	MDT, Water, AFO	MDT, Water, AWP	MDT, Water, AWB	MDT, Air, CSU	Release (CFS) Nimbus	Storage (TAF) Folsom	USP/LP Unit 1	USP/LP Unit 2	USP/LP Unit 3
Jul	61.5	62.3	56.3	59.1	60.3	61.5	77.4	897		A	A	A
08/01	58.9	60.8	57.6	60.1	60.9	62.0	73.1	4020	848	A 36.5	A 36.4	A 27
08/02	58.3	61.1	57.7	59.9	60.9	61.9	68.6	4020	844	A 13.7	A 56.9	A 29
08/03	59.4	63.3	57.9	60.2	61.2	62.1	69.0	4017	839	A 55.7	A 30.9	A 13
08/04	59.7	63.3	58.0	60.5	61.5	62.6	73.5	4022	836	A 53.2	A 12.8	A 34
08/05	59.8	62.9	58.1	60.6	61.7	62.9	78.8	4019	835	A 12.9	A 56.8	A 30
08/06	59.9	63.1	58.0	61.1	62.0	63.2	83.8	4020	827	A 55.8	A 30.8	A 13
08/07	59.7	62.8	58.0	60.6	62.2	63.4	83.6	4017	823	A 32.3	A 14.0	A 54
08/08	59.7	61.9	58.4	60.6	61.6	62.8	72.7	4022	819	A 34.1	A 54.8	A 11
08/09	59.4	61.5	58.5	60.9	62.0	62.9	72.0	4021	816	A 62.3	A 22.7	A 15
08/10	59.2	60.8	58.5	61.0	62.1	63.1	73.4	4018	812	A 55.4	A 12.5	A 32
08/11	59.1	62.4	58.6	61.2	62.1	63.1	72.3	4021	808	A 56.1	A 29.9	A 14
08/12	59.8	62.8	58.6	61.3	62.4	63.5	77.9	4020	804	A 55.8	A 14.1	A 30
08/13	60.0	63.5	58.6	61.3	62.4	63.6	81.8	4026	800	A 55.8	A 30.7	A 14
08/14	60.0	62.4	58.6	61.5	62.5	63.5	86.3	4026	796	A 10.7	A 43.3	A 46
08/15	59.5	61.9	59.0	61.3	62.6	63.8	88.0	4025	793	A 0.2	A 39.8	A 60
08/16												
08/17												
08/18												
08/19												
08/20												
08/21												
08/22												
08/23												
08/24												
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08/30												
08/31												
Aug	59.5	62.3	58.3	60.8	61.9	63.0	77.0	820				
						Total	AF	119630				

Legend:

? = 1-9 hours of data missing

! = 10 or more hours of data missing

= Station out of service

Monthly Averages

A = All Shutters Lowered

T = Top Shutter Raised

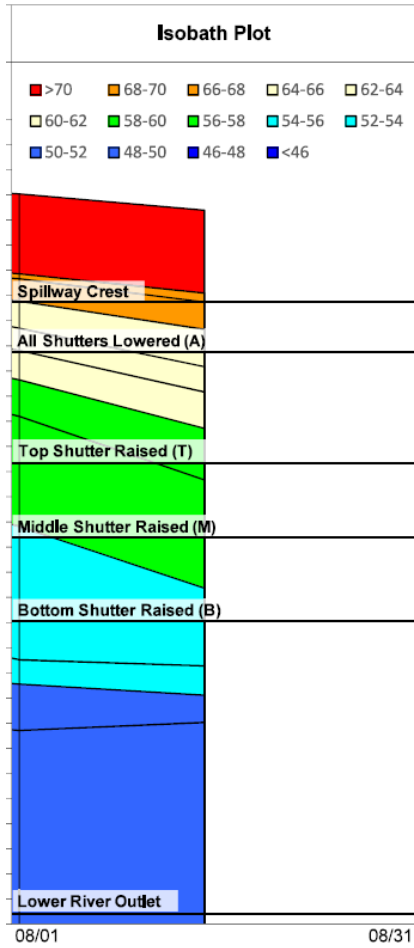
M = Middle Shutter Raised

B = Bottom Shutter Raised

O = Unit Outage

Notes:

¹ AFD is a weighted average based on hourly flow values, including generation, bypass and spill



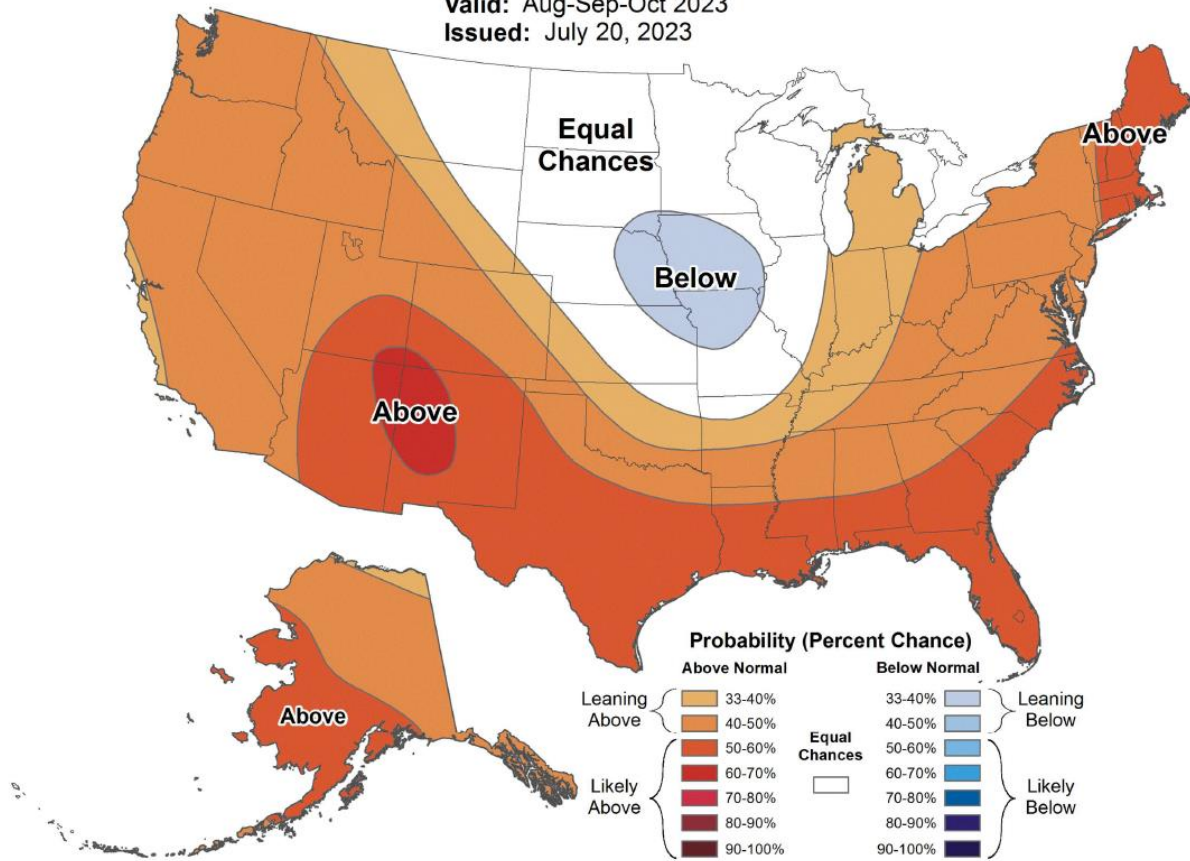
Isobath Plot 08/1-08/31. Showing Spillway Crest, All Shutters Lowered (A), Top Shutter Raised (T), Middle Shutter Raised (M), Bottom Shutter Raised (B), and Lower River Outlet



Seasonal Temperature Outlook



Valid: Aug-Sep-Oct 2023
Issued: July 20, 2023



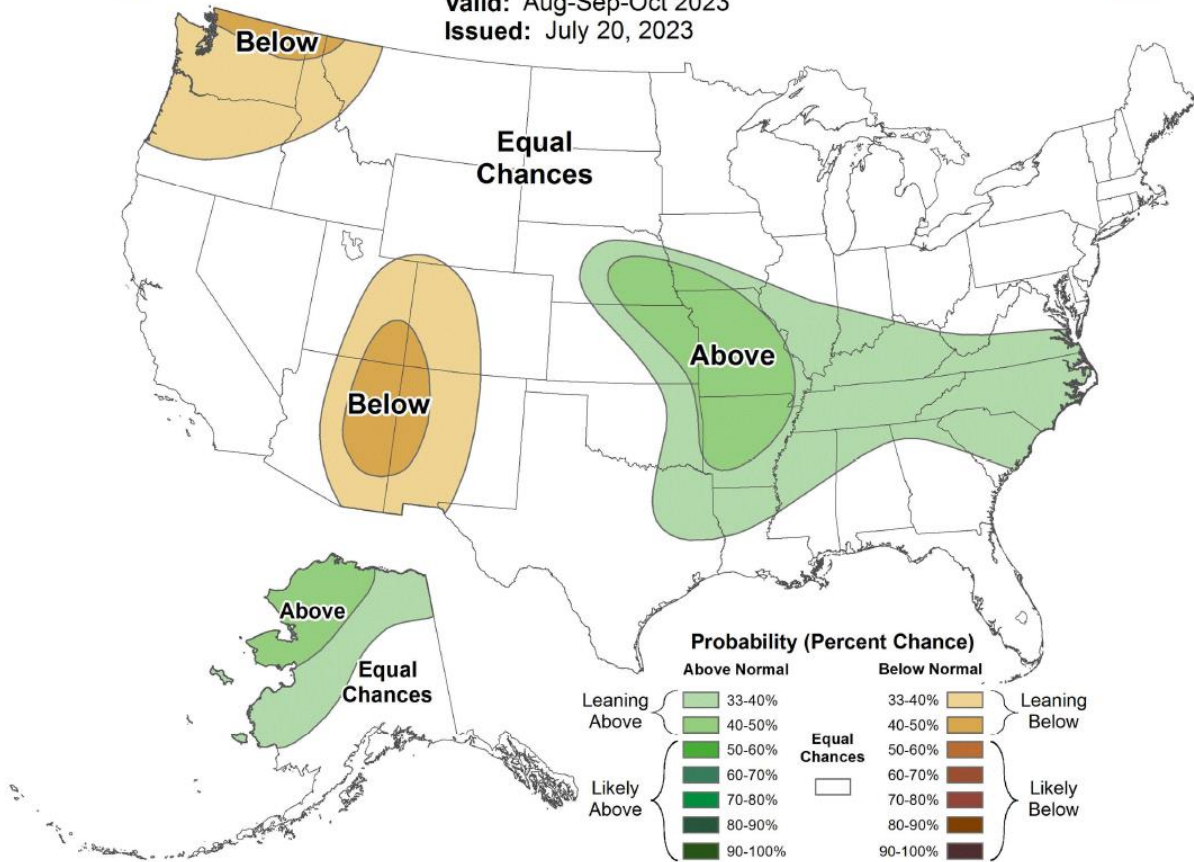
Map – Monthly Temperature Outlook; Valid Aug-Sep-Oct 2023; Issued July 20, 2023



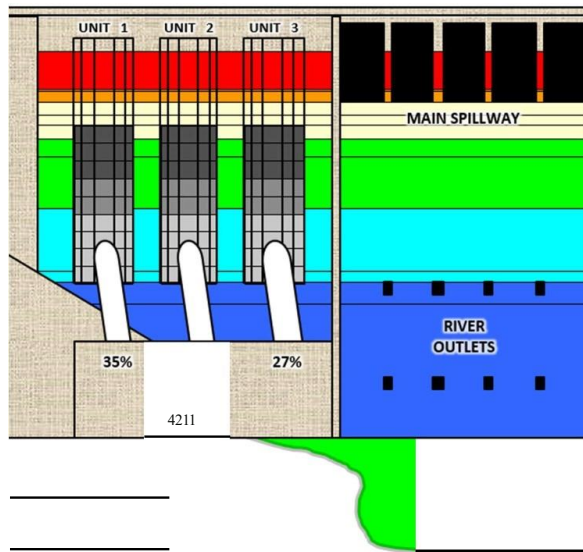
Seasonal Precipitation Outlook



Valid: Aug-Sep-Oct 2023
Issued: July 20, 2023



Map – Monthly Temperature Outlook; Valid Aug-Sep-Oct 2023; Issued July 20, 2023



Graphic showing Folsom Dam on 8/1/23 with a temperature of 57.6 °F.

American River Summary Conditions – Aug (On-going)

Releases are currently at 4,000 cfs

- June 23, 2023, from 4,500 cfs to 4,000 cfs

Temperature Management

- Top Shutters: Units 1, 2, and 3 -- lowered
- Middle Shutters: Units 1, 2, and 3 -- lowered
- Bottom Shutters: Units 1, 2, and 3 -- lowered

Folsom Shutter Configuration and Changes:

Most likely no Shutter change till the end of August

July 50% Exceedance

Storages

Federal End of the Month Storage/Elevation (TAF/Feet)

Facility	Jul	Aug	Sep	Oct	Nov	Dec
Folsom Storage	850	727	661	563	537	527
Folsom Elevation	454	442	435	424	421	420

Monthly River Release (TAF/cfs)

Facility	Jul	Aug	Sep	Oct	Nov	Dec
American Storage	246	246	178	123	119	123
American cfs	4000	4000	3000	2005	2000	2000

American River Base Flow Table

Month	Index Used for Index-based MRR	Index Based MRR	RDPB-based MRR for fall-run Chinook salmon (applicable in Jun and Feb)	RDPB-based MRR for steelhead (applicable Feb to May)	Controlling MRR	Actual Average Monthly Nimbus releases ¹
October	May ARI ² (50% exceedance)	1,326 cfs	Not applicable	Not applicable	1,326 cfs	1,462 cfs
November	May ARI ² (50% exceedance)	1,326 cfs	Not applicable	Not applicable	1,326 cfs	1,352 cfs
December	May ARI ² (50% exceedance)	1,326 cfs	Not applicable	Not applicable	1,326 cfs	1, 928 cfs
January	January SRI (75% exceedance)	1,750 cfs	1,326 cfs	Not applicable	1,326 cfs	14,060 cfs
February	February ARI (50% exceedance)	1,750 cfs	1,750 cfs	1,750 cfs	1,750 cfs	4,021 cfs
March	March ARI (50% exceedance)	1,750 cfs	1,750 cfs	1,750 cfs	1,750 cfs	12,616 cfs
March	March ARI ³ (90% exceedance)	1,750 cfs	1,750 cfs	1,750 cfs	1,750 cfs	12,616 cfs
April	April ARI (50% exceedance)	1,500 cfs	Not applicable	1,500 cfs	1,500 cfs	7,088 cfs
April	April ARI ³ (90% exceedance)	1,500 cfs	Not applicable	1,500 cfs	1,500 cfs	7,088 cfs
May	May ARI (50% exceedance)	1,500 cfs	Not applicable	1,500 cfs	1,500 cfs	10,890 cfs
May	May ARI ³ (90% exceedance)	1,500 cfs	Not applicable	1,500 cfs	1,500 cfs	10,890 cfs
June	May ARI ² (90% exceedance)	1,500 cfs	Not applicable	Not applicable	Not applicable	6,650 cfs
July	May ARI ² (90% exceedance)	1,750 cfs	Not applicable	Not applicable	1,750 cfs	4,011 cfs
August	May ARI ² (50% exceedance)	1,750 cfs	Not applicable	Not applicable	1,750 cfs	

MRR= Minimum Release Requirements; RDPA= Redd Dewatering Protective Adjustment; ARI= American River Index; SRI= Sacramento River Index

¹ Average of daily release over the month from NAT station on CDEC.

² Since new forecasts are usually provided January through May, the May ARI would also be used for June–September

of the current water year and October–December of the next water year unless there is an update to the ARI after May.